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*The Microbic origin of
fibroid and other benign tumors*



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THE MICROBIC ORIGIN OF FIBROID AND OTHER BENIGN TUMORS.

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It is I think impossible at present to draw any definite conclusions from the investigations of pathologists as to the cause of tumors. There is no doubt of the microbic origin of carcinoma and sarcoma, but pathology has not yet demonstrated it. In order to appreciate the relationship of benign tumors to micro-organisms let us call to mind some of the characteristics of those tumors and allied affections that are caused by microbes.

Fibrosis of the uterus, more commonly called hyperplasia, sub-involution or chronic metritis, is a pathological condition bordering upon myofibroma and sarcoma as far as the ultimate histological changes are concerned. It occurs in connection with endometritis either of severe form or long duration, and hence must be either directly or indirectly due to the action of micro-organisms.

Sarcoma of the uterine walls, which I assume to be dependent upon microbes, cannot always be distinguished by the pathologist from fibro-myoma unless he has the clinical history to aid him. Sarcoma clinically as well as histologically may approach in character a benign tumor; it may grow very slowly, may be to a certain extent encapsulated, may attain large size without metastasis and although large, often fails to return after operation. Fibroids may grow rapidly, may develop in numerous secondary nodules about the original one, and may exist in different parts of the genital track in the same women. I have met with them on both the vaginal and uterine walls of the same woman as well as both in the ovary and uterus. I have seen the



surface of the uterus as thickly studded with them as the peritoneum is apt to be with tubercular nodules. I saw a soft fibro-myoma or myoma of the fundus as large as a six months' pregnant uterus that had no capsule, and which was as intimately connected with the remainder of the uterus as any sarcoma on the one hand or hyperplasia on the other, and more so than many sarcomas.

When fibroids are infectious or recurring, it is supposed that they have become fibro-sarcoma. But if they are of microbic origin, it is probable that in some cases the infection may be unusually strong and invade the surrounding tissue so extensively as to produce new growths after the original tumors have been removed.

While the ordinary encapsuled fibroid is a distinct form of tumor, the dividing line between its manifestations and those of certain other proliferations of microbic origin cannot be drawn. It is difficult to say that microbes begin their influence here and leave it off there. If microbes are the cause of similar proliferations of tissue more malignant than they, and of others less virulent than they, is it reasonable to suppose that microbes have nothing to do with them?

The relation of infection to papilloma and papillomatous degeneration is instructive. As occurring on the skin about the genitals and in the vagina, there is no doubt but infection causes some of these formations. Some are due to syphilis, some to venereal infection without developing either syphilis, gonorrhea or chancroid, as I have observed in married women whose husbands were loose in their habits, as well as in a young boy who had never had a venereal disease, and had just begun to cohabit with prostitutes of uncleanly surroundings. In many similar growths upon the hands it is impossible to demonstrate anything of the kind. Papillomatous or villous growths in ovarian tumors sometimes seem benign and sometimes malignant. There is no doubt but that the cells are transplanted on the peritoneum in many cases, and develop independently of the mother growth, while in others the removal of the original growth is followed by a disappearance of the disease. Here we have a diseased action which occurring in connection with syphilis is undoubtedly infectious and in other conditions is with extreme probability mildly infectious, while in some cases it approaches malignancy in its power of invading tissues. It forms benign tumors with infectious qualities, the villous growth undoubtedly being due to a low form of micro-organism.

The atypical growth of epithelial cells in proliferating ovarian cystomas, with unlimited production of secondary cysts from the inner epithelial surface makes it necessary to assume the presence of some living organism to account for the unending irritation. The fact that the papillomatous changes in some of these tumors are the result of the irritation of a germ, and that a large per cent of ovarian tumors

are carcinomatous, would make it seem like straining a point to consider this equally persistent growth of epithelial cells as due to anything but germ irritation. That the germ or parasite has not the power of penetrating the cyst wall like that of carcinoma or of papilloma is not proof of its non-existence but merely of a difference in character.

The growths produced by tuberculosis and syphilis, some forms of elephantiasis and infectious goitre are instances of the action of germs that produce new formations that are not malignant.

Adenomas of the mucous membranes are microbic in origin since they are the product of inflammation.

Many infectious diseases are more or less limited to certain periods of life, when the system is unable to resist their action or is most exposed to their influence. Thus the children's diseases are almost confined to early life, tuberculosis seems to develop better in young people, typhoid fever and malaria among adults, etc. Malignant tumors develop more at certain periods, carcinoma in middle and old age, sarcoma in young and middle age. Many benign tumors have similar limitations, fibroids of the uterus developing during menstrual life, chondromas and warty growths in young subjects, horny cutaneous growths in middle age, etc.

Tumors, although not strictly speaking degenerations, are degenerative in their nature, and degenerative changes in living organisms, when not the result of perverted function, are usually brought about by microbic action. Tuberculous, syphilitic, malignant, malarial diseases are examples. When tissues lose their vitality they are attacked by microbes. It is by their action that dead tissues are broken up. The microbe as a producer of morbid conditions in the system is as by recent discoveries becoming a more and more prominent factor.

To go back to fibroids, there are many facts that inferentially point to a microbic origin. Thus in women fibroids occur much more frequently in the uterus, in which the tissues are more exposed to infection than elsewhere. Not only do microbes readily gain access to the uterus but its varying states of activity and vigor, and, the frequency of inflammation make it an easy prey to them. They seldom occur in the heart. Were the Cohnheim theory the true one, I would expect fibroids to occur frequently in the heart which is subjected to strain and disturbance almost daily through excessive physical exertion, reflex excitation, valvular disease, Bright's disease, etc.

The connection of endometritis, particularly of the hypertrophic variety, with fibroids is a matter of frequent comment. It is considered by Virchow, Olshausen, Winckel, Gottschalk and others as the cause. Hypertrophic endometritis means in most cases an abundance of in-

fection, and constitutes a favorable condition for the invasion of germs.

The beneficial action of curetting and electricity are more easily accounted for by supposing that they act by relieving the inflammation and removing the germs. Ergot diminishes excessive vascularity in and about the tumor, and thus produces a condition less favorable to germ action, and the same may be said of oöphorectomy and the ligating of the arteries supplying the uterus.

I should also consider that cystic and even fatty degeneration were better accounted for by the action of microbes upon tissues of lowered vitality than by any other.

Sudden unaccountable increase or diminution of growth is most satisfactorily explained by microbic action. A familiar example of sudden increase as well as gradual but complete cessation of activity in infected tissues is afforded by the action of old septic-inflammatory diseases of the uterine appendages, during and between attacks.

The tendency of uterine fibroids to stop growing at the menopause may be explained by the fact that the growths are old by that time, and the microbes have lost much of their vitality whether through the accumulation of their own excreta or otherwise and require increased rather than diminished vascularity for the maintenance of their vitality the same as do the pus germs. I have seen more tumors stop growing before the menopause than at that time.

A relationship between fibroids of the uterus and gonorrhea has been asserted by some observers. Prochnowick has seen decided improvement by alterative treatment in four cases occurring in connection with syphilis. The alterative treatment of fibroid that was formerly popular can only be of benefit by destroying the germs which cause the fibroid.

If it be true that fibroids are caused by microbes, then curettage of the uterus, intrauterine injections of germicides, such as the tincture of iodine, and perhaps the internal administrations of alteratives as in the treatment of syphilis should be of value in the treatment of small tumors. It is hardly to be expected that large tumors will be cured in this way more than the final lesions of syphilis can always be cured by the use of mercury and iodine.

